DESCRIPTION

METHOD AND DEVICE FOR TRANSMITTING SIMULATION MODELS BETWEEN SIMULATORS

The invention relates to a device and a method for transmitting simulation models between at least two simulators.

The field of simulation encompasses numerous types of simulators that permit the graphic, component-oriented specification of systems as a dynamic signal-flow simulation model, as well as the simulation of the dynamic behavior of these simulation models. Examples of these simulators include Simulink, SystemBuild, ControlH, Beacon and Scade. These simulators differ in their functioning and representation capabilities, with each system having its own advantages and shortcomings. For example, the system specification in one simulator may be particularly well-supported, whereas the simulation and analysis capabilities of another simulator may be more comprehensive.

A critical challenge that is frequently encountered in the use of these simulators is how to transmit simulation

to another. The starting point is a simulation model that was specified with a simulator. The source code for the entire simulation model is then generated by means of an automatic code generator of this simulator. The entire source code is incorporated as an external module into the other simulator. Consequently, all structural information is lost; the originally detailed simulation model becomes a single block. It is therefore impossible to process the model further in the second simulator.

The general code generation also causes information to be lost, so the simulation model predetermined as an external module represents an inadequately accurate description in the second simulator.

It is the object to provide a device and a method that permit the transmission of a simulation model between two different simulators, in which the information content and level of accuracy are intended to be maintained, the dynamic behavior is intended to remain unchanged, and it should be possible to effect further specification on the simulation model.

This object is accomplished by the features of the device claim 1 and the method claim 6, particularly by a device having a first input/output element, to which the

second simulator, and transmit the model back to the first simulator by way of the first input/output element.

The object is accomplished by the method in that the simulation model of the first simulator is separated into its operators, the operators are exported into an operator library such that they can be utilized by the second simulator, and, in addition to the operator library, an operator association that can be read and preferably altered by the first and second simulators, and forms the basis of the simulation model, is exported to the operator library.

The dependent claims disclose further advantageous measures. The invention is illustrated in the attached drawing and described in further detail below.

The single drawing figure shows a schematic circuit diagram of two simulators that are connected to one another by a device for transmitting simulation models. The first simulation model is separated into components that are in turn stored in an operator library. The second simulator converts the simulation model into a new, semantically-equivalent model using the integratable operator library with the aid of the operator association.